Parallelization of Spacetime Mesh-based Solvers

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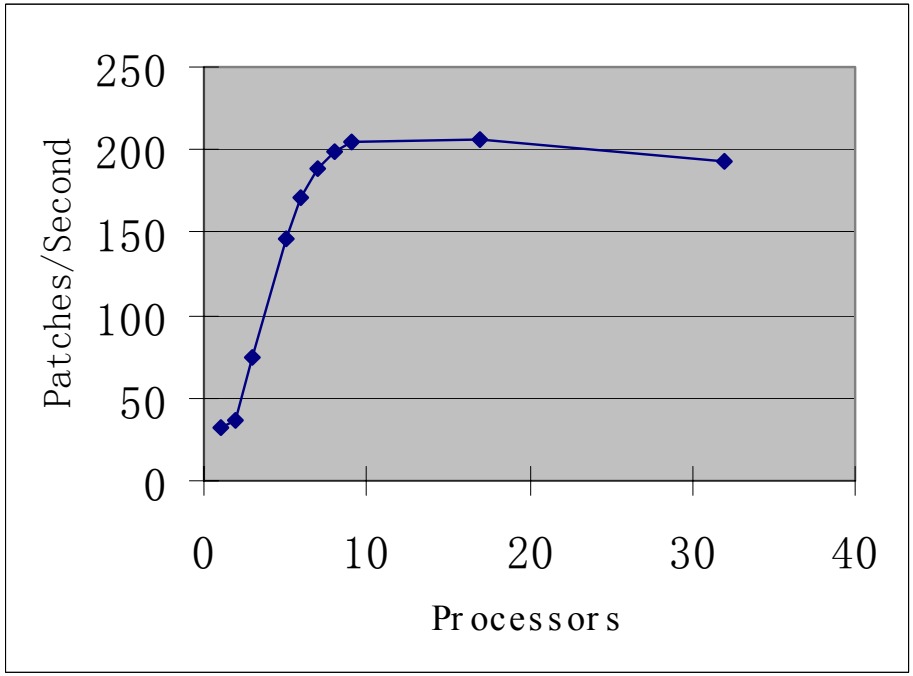
Research:

Collaboration between researchers in Computational Geometry and Parallel computation produced a significant speedup up to 10 processors, allowing many more solutions per second. Further research aims to increase the number of solutions per second, and to allow more processors to be used concurrently, by parallelizing the generation of the spacetime mesh via the tent-pitcher algorithm.



Number of patches (groups of spacetime elements that surround a single space node) increase from about 30 to 200, but speedup saturates due to sequential mesh generation.